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REMOTE SENSING AND SATELLITE SURVEYING IN BANGLADESH

A background paper on the latest position of
the status of Remote Sensing and Satellite
Surveying in Bangladesh

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SURVEYING IN BANGLADESH: A BACKGROUND PAPER
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DR. ANWAR HOSSAIN

Principal Investigator

Bangladesh ERTS (Landsat) Programme

and

Chairman, Bangladesh Atomic Energy Commission

Leader of the Bangladesh Delegation to the ESCAP

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Since the visit of the ESCAP mission to Bangladesh in March, 1976 remarkable progress have been made in the field of Remote Sensing and Satellite Surveying in the country.

Bangladesh LANDSAT Programme, which started in 1974 as a national Programme with US\$ 220,000 UNDP contribution, has since been expanded more than two times to include US \$ 469,150 revised UNDP contribution. Bangladesh Government approved this Programme in July 1976 and UNDP approved the same in August, 1976. Meanwhile the Programme was transferred from Planning Commission to the Science and Technology Division of the Ministry of Education for implementation. An independent LANDSAT Centre was established and the Programme became operational in its own premises. FAO was appointed as the executing agency for the Programme in September, 1976. Equipment for the Centre were ordered in October, 1976. FAO appointed Dr. Norman H. MacLeod, Director of the Earth Resources Development Research Institute, Washington as Consultant to the Bangladesh LANDSAT Programme in November. Dr. MacLeod arrived in December. Soon a photolab was established and the instrument for Centre started arriving. A number of successful ground truth missions were performed in January that confirmed the land formation in the Bay of Bengal. Dr. MacLeod left in February 1977 to come back soon, when the Centre will become fully operational. To-day Bangladesh Landsat Centre is equipped with a photographic laboratory where enlargement and reproduction facilities are available. Diazo printer developer is providing regular diazo-prints of Landsat imageries and cartographic exercises are carried out with a Plan-variograph. A Zoom transfer-scope and a multispectral additive viewer are soon to arrive. With light tables and miscellaneous photographic and cartographic arrangement available, the Bangladesh Landsat Centre can now truly claim to be a well-equipped laboratory for handling LANDSAT imageries for visual interpretation.

Bangladesh LANDSAT Programme has recently received a research grant from IDRC of Canada. This grant, together with the UNDP assistance, will enable Bangladesh to acquire a density slicer with digital attachment. The equipment is in the process of being

acquired. With this new equipment, Bangladesh LANDSAT Centre will be able to make some quantitative analysis of LANDSAT imageries.

Bangladesh LANDSAT Programme is also contemplating to enter into a contract with a North American Institute for the survey of newly accreted land in the coastal region of the country and simultaneously carry out winter crop inventory using satellite imageries. The Programme also plans to prepare a digital map of the country in collaboration with an American Institute. IBRD is likely to finance this project for which a proposal has been initiated. In course of these collaborative programmes, the Bangladesh LANDSAT Centre intends to train up members of the Task Force so as to build up a group of qualified manpower. Provision of manpower training is also available in the UNDP Programme and in the IDRC Programme. On completion of these programmes the country will have a well-equipped Centre for Landsat image analysis by 1979. It may be mentioned in this connection that Bangladesh Government has already acquired an aerial photographic camera. Bangladesh Air Force possesses the necessary operational facilities and Survey of Bangladesh is equipped with multiplication and storage facilities. A proposal for acquiring a multispectral camera is being initiated. Acquisition of a multispectral camera and development of a colour photography laboratory is a part of LANDSAT Centre's future Programme of activity. It is hopefully expected that with all these facilities available in the country, the LANDSAT Centre will act as the focal point for remote sensing activities in Bangladesh.

In the current phase of development, the Bangladesh LANDSAT Programme is either supported by or in the process of getting support from the following Agencies :

1. Government of the People's Republic of Bangladesh (Implementing agency Science and Technology Division, Ministry of Education).	..	US \$	197,667
2. UNDP (Executing agency FAO)	..	US \$	469,150
3. IDRC, Canada (at the final stages of processing).	..	US \$	131,900
4. IBRD (in the processing stage)	..	US \$	225,000
5. USAID (in the processing stage)	..	US \$	170,000
Total		..	US \$ 1,193,717

In the 1978—81 development period Bangladesh LANDSAT Centre has proposed a country programme as follows:

1. Bangladesh Government contribution. .. US \$ 2.00 million
2. UNDP, USAID, CIDA, SIDA .. US \$ 8.00 million and other Agencies.

Total ..	US \$ 10.00 million
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The above amount will be used for the setting up a self-contained Remote Sensing Centre that would be equipped with a satellite ground receiving station and other necessary facilities. This station will be a dual-purpose receiving station for receiving data from resource satellites as well as meteorology satellites. With the satellite receiving station installed under this arrangement and with the trained manpower and laboratory facilities available under the current programme, Bangladesh is in a position to host a Regional Centre for Remote Sensing and Satellite Surveying at Dacca. Land belonging to Bangladesh Atomic Energy Commission at Savar, about 20 miles north of Dacca, provides an excellent site for such a regional centre where sufficient area will be available for the purpose. The proposed Regional Centre can be developed into a research-cum-training Centre for satellite remote sensing Investigations in the region. With digital analysis already in the process of being introduced, this Centre could provide machine processing of LANDSAT Data as well.

Bangladesh has a great geographical advantage in claiming for a regional remote sensing centre. It is virtually at the centre of the following ESCAP countries:

China, Pakistan, India, Srilanka, Nepal, Bhutan, Afganistan, Mongolia, Burmah, Malaysia, Singapore, Indonesia, Laos, Combodia, Vietnam and Thailand.

A standard ground station located at Dacca will cover all these countries, partly or fully. This will offer the highest number of country coverages as compared to any other country of the region.

Situated in the funnel mouth of the Bay of Bengal, Bangladesh is very often subjected to natural hazards. At present, APT Ground Stations located in Dacca are taking daily pictures helping in the

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advance warning of tropical cyclones in the region. These are being up-dated to cover advanced satellites introduced by NOAA. Location of a regional centre with the dual-purpose receiving arrangement will, surely offer the region, *vis a vis* the world, a laboratory for research and application in the field of satellite Remote Sensing in meteorology and earth resources study.

With financing assurances available for the establishment of a ground station and ancillary facilities for an International Centre for Remote Sensing in the country, Bangladesh, offers to ESCAP its desire to host the ESCAP Regional Remote Sensing Centre at Dacca. Under its current UNDP Programme, Bangladesh proposes to hold a workshop on Remote Sensing in Dacca towards the end of 1978. If the concept of Regional Remote Sensing Centre at Dacca is approved by ESCAP, Dacca also offers to extend the scope of Dacca workshop as a regional Training Workshop for satellite remote sensing under ESCAP sponsorship.

Bangladesh is a young country, but determined to develop its scientific and technological potential for the exploitation of her natural resources for the welfare of the people. It has good number of trained technical personnel who are capable of running her scientific programmes. Bangladesh will be able to extend the facilities of the proposed Remote Sensing Centre to the ESCAP region and offer international cooperation.

Landsat ground receiving station coverages in ESCAP region

